

#8
MCW

1653



1653

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/870,203A

DATE: 02/05/2002
 TIME: 14:00:19

Input Set : A:\4-31452A.ST25.txt
 Output Set: N:\CRF3\02052002\I870203A.raw

ENTERED

3 <110> APPLICANT: Novartis AG
 5 <120> TITLE OF INVENTION: Adenovirus particles with mutagenized fiber proteins
 7 <130> FILE REFERENCE: 4-31452A
 9 <140> CURRENT APPLICATION NUMBER: US 09/870,203A
 10 <141> CURRENT FILING DATE: 2001-05-30
 12 <160> NUMBER OF SEQ ID NOS: 43
 14 <170> SOFTWARE: PatentIn version 3.1
 16 <210> SEQ ID NO: 1
 17 <211> LENGTH: 1746
 18 <212> TYPE: DNA
 19 <213> ORGANISM: Human adenovirus type 5
 21 <220> FEATURE:
 22 <221> NAME/KEY: CDS
 23 <222> LOCATION: (1)..(1746)
 24 <223> OTHER INFORMATION:
 27 <400> SEQUENCE: 1

RECEIVED

FEB 13 2002

TECH CENTER 1600/2900

28 atg aag cgc gca aga ccg tct gaa gat acc ttc aac ccc gtg tat cca	48
29 Met Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro	
30 1 5 10 15	
32 tat gac acg gaa acc ggt cct cca act gtg cct ttt ctt act cct ccc	96
33 Tyr Asp Thr Glu Thr Gly Pro Pro Thr Val Pro Phe Leu Thr Pro Pro	
34 20 25 30	
36 ttt gta tcc ccc aat ggg ttt caa gag agt ccc cct ggg gta ctc tct	144
37 Phe Val Ser Pro Asn Gly Phe Gln Glu Ser Pro Pro Gly Val Leu Ser	
38 35 40 45	
40 ttg cgc cta tcc gaa cct cta gtt acc tcc aat ggc atg ctt gcg ctc	192
41 Leu Arg Leu Ser Glu Pro Leu Val Thr Ser Asn Gly Met Leu Ala Leu	
42 50 55 60	
44 aaa atg ggc aac ggc ctc tct ctg gac gag gcc ggc aac ctt acc tcc	240
45 Lys Met Gly Asn Gly Leu Ser Leu Asp Glu Ala Gly Asn Leu Thr Ser	
46 65 70 75 80	
48 caa aat gta acc act gtg agc cca cct ctc aaa aaa acc aag tca aac	288
49 Gln Asn Val Thr Thr Val Ser Pro Pro Leu Lys Lys Thr Lys Ser Asn	
50 85 90 95	
52 ata aac ctg gaa ata tct gca ccc ctc aca gtt acc tca gaa gcc cta	336
53 Ile Asn Leu Glu Ile Ser Ala Pro Leu Thr Val Thr Ser Glu Ala Leu	
54 100 105 110	
56 act gtg gct gcc gcc gca cct cta atg gtc gcg ggc aac aca ctc acc	384
57 Thr Val Ala Ala Ala Pro Leu Met Val Ala Gly Asn Thr Leu Thr	
58 115 120 125	
60 atg caa tca cag gcc ccg cta acc gtg cac gac tcc aaa ctt agc att	432
61 Met Gln Ser Gln Ala Pro Leu Thr Val His Asp Ser Lys Leu Ser Ile	
62 130 135 140	

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/870,203A

DATE: 02/05/2002
TIME: 14:00:19

Input Set : A:\4-31452A.ST25.txt
Output Set: N:\CRF3\02052002\I870203A.raw

64	gcc acc caa gga ccc ctc aca gtg tca gaa gga aag cta gcc ctg caa	480
65	Ala Thr Gln Gly Pro Leu Thr Val Ser Glu Gly Lys Leu Ala Leu Gln	
66	145 150 155 160	
68	aca tca ggc ccc ctc acc acc acc gat agc agt acc ctt act atc act	528
69	Thr Ser Gly Pro Leu Thr Thr Thr Asp Ser Ser Thr Leu Thr Ile Thr	
70	165 170 175	
72	gcc tca ccc cct cta act act gcc act ggt agc ttg ggc att gac ttg	576
73	Ala Ser Pro Pro Leu Thr Thr Ala Thr Gly Ser Leu Gly Ile Asp Leu	
74	180 185 190	
76	aaa gag ccc att tat aca caa aat gga aaa cta gga cta aag tac ggg	624
77	Lys Glu Pro Ile Tyr Thr Gln Asn Gly Lys Leu Gly Leu Lys Tyr Gly	
78	195 200 205	
80	gct cct ttg cat gta aca gac gac cta aac act ttg acc gta gca act	672
81	Ala Pro Leu His Val Thr Asp Asp Leu Asn Thr Leu Thr Val Ala Thr	
82	210 215 220	
84	ggt cca ggt gtg act att aat aat act tcc ttg caa act aaa gtt act	720
85	Gly Pro Gly Val Thr Ile Asn Asn Thr Ser Leu Gln Thr Lys Val Thr	
86	225 230 235	
88	gga gcc ttg ggt ttt gat tca caa ggc aat atg caa ctt aat gta gca	768
89	Gly Ala Leu Gly Phe Asp Ser Gln Gly Asn Met Gln Leu Asn Val Ala	
90	245 250 255	
92	gga gga cta agg att gat tct caa aac aga cgc ctt ata ctt gat gtt	816
93	Gly Gly Leu Arg Ile Asp Ser Gln Asn Arg Arg Leu Ile Leu Asp Val	
94	260 265 270	
96	agt tat ccg ttt gat gct caa aac caa cta aat cta aga cta gga cag	864
97	Ser Tyr Pro Phe Asp Ala Gln Asn Gln Leu Asn Leu Arg Leu Gly Gln	
98	275 280 285	
100	ggc cct ctt ttt ata aac tca gcc cac aac ttg gat att aac tac aac	912
101	Gly Pro Leu Phe Ile Asn Ser Ala His Asn Leu Asp Ile Asn Tyr Asn	
102	290 295 300	
104	aaa ggc ctt tac ttg ttt aca gct tca aac aat tcc aaa aag ctt gag	960
105	Lys Gly Leu Tyr Leu Phe Thr Ala Ser Asn Asn Ser Lys Lys Leu Glu	
106	305 310 315	
108	ggt aac cta agc act gcc aag ggg ttg atg ttt gac gct aca gcc ata	1008
109	Val Asn Leu Ser Thr Ala Lys Gly Leu Met Phe Asp Ala Thr Ala Ile	
110	325 330 335	
112	gcc att aat gca gga gat ggg ctt gaa ttt ggt tca cct aat gca cca	1056
113	Ala Ile Asn Ala Gly Asp Gly Leu Glu Phe Gly Ser Pro Asn Ala Pro	
114	340 345 350	
116	aac aca aat ccc ctc aaa aca aaa att ggc cat ggc cta gaa ttt gat	1104
117	Asn Thr Asn Pro Leu Lys Thr Lys Ile Gly His Gly Leu Glu Phe Asp	
118	355 360 365	
120	tca aac aag gct atg gtt cct aaa cta gga act ggc ctt agt ttt gac	1152
121	Ser Asn Lys Ala Met Val Pro Lys Leu Gly Thr Gly Leu Ser Phe Asp	
122	370 375 380	
124	agc aca ggt gcc att aca gta gga aac aaa aat gat aag cta act	1200
125	Ser Thr Gly Ala Ile Thr Val Gly Asn Lys Asn Asn Asp Lys Leu Thr	
126	385 390 395	
128	ttg tgg acc aca cca gct cca tct cct aac tgt aga cta aat gca gag	1248

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/870,203A

DATE: 02/05/2002
TIME: 14:00:19

Input Set : A:\4-31452A.ST25.txt
Output Set: N:\CRF3\02052002\I870203A.raw

```

129 Leu Trp Thr Thr Pro Ala Pro Ser Pro Asn Cys Arg Leu Asn Ala Glu
130 405 410 415 1296
132 aaa gat gct aaa ctc act ttg gtc tta aca aaa tgt ggc agt caa ata
133 Lys Asp Ala Lys Leu Thr Leu Val Leu Thr Lys Cys Gly Ser Gln Ile
134 420 425 430 1344
136 ctt gct aca gtt tca gtt ttg gct gtt aaa ggc agt ttg gct cca ata
137 Leu Ala Thr Val Ser Val Leu Ala Val Lys Gly Ser Leu Ala Pro Ile
138 435 440 445 1392
140 tct gga aca gtt caa agt gct cat ctt att ata aga ttt gac gaa aat
141 Ser Gly Thr Val Gln Ser Ala His Leu Ile Ile Arg Phe Asp Glu Asn
142 450 455 460 1440
144 gga gtg cta cta aac aat tcc ttc ctg gac cca gaa tat tgg aac ttt
145 Gly Val Leu Leu Asn Asn Ser Phe Leu Asp Pro Glu Tyr Trp Asn Phe
146 465 470 475 480 1488
148 aga aat gga gat ctt act gaa ggc aca gcc tat aca aac gct gtt gga
149 Arg Asn Gly Asp Leu Thr Glu Gly Thr Ala Tyr Thr Asn Ala Val Gly
150 485 490 495 1536
152 ttt atg cct aac cta tca gct tat cca aaa tct cac ggt aaa act gcc
153 Phe Met Pro Asn Leu Ser Ala Tyr Pro Lys Ser His Gly Lys Thr Ala
154 500 505 510 1584
156 aaa agt aac att gtc agt caa gtt tac tta aac gga gac aaa act aaa
157 Lys Ser Asn Ile Val Ser Gln Val Tyr Leu Asn Gly Asp Lys Thr Lys
158 515 520 525 1632
160 cct gta aca cta acc att aca cta aac ggt aca cag gaa aca gga gac
161 Pro Val Thr Leu Thr Ile Thr Leu Asn Gly Thr Gln Glu Thr Gly Asp
162 530 535 540 1680
164 aca act cca agt gca tac tct atg tca ttt tca tgg gac tgg tct ggc
165 Thr Thr Pro Ser Ala Tyr Ser Met Ser Phe Ser Trp Asp Trp Ser Gly
166 545 550 555 560 1728
168 cac aac tac att aat gaa ata ttt gcc aca tcc tct tac act ttt tca
169 His Asn Tyr Ile Asn Glu Ile Phe Ala Thr Ser Ser Tyr Thr Phe Ser
170 565 570 575 1746
172 tac att gcc caa gaa taa
173 Tyr Ile Ala Gln Glu
174 580
177 <210> SEQ ID NO: 2
178 <211> LENGTH: 581
179 <212> TYPE: PRT
180 <213> ORGANISM: Human adenovirus type 5
182 <400> SEQUENCE: 2
184 Met Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro
185 1 5 10 15
188 Tyr Asp Thr Glu Thr Gly Pro Pro Thr Val Pro Phe Leu Thr Pro Pro
189 20 25 30
192 Phe Val Ser Pro Asn Gly Phe Gln Glu Ser Pro Pro Gly Val Leu Ser
193 35 40 45
196 Leu Arg Leu Ser Glu Pro Leu Val Thr Ser Asn Gly Met Leu Ala Leu
197 50 55 60
200 Lys Met Gly Asn Gly Leu Ser Leu Asp Glu Ala Gly Asn Leu Thr Ser

```

RAW SEQUENCE LISTING

DATE: 02/05/2002

PATENT APPLICATION: US/09/870,203A

TIME: 14:00:19

Input Set : A:\4-31452A.ST25.txt

Output Set: N:\CRF3\02052002\I870203A.raw

201	65					70						75				80
204	Gln	Asn	Val	Thr	Thr	Val	Ser	Pro	Pro	Leu	Lys	Lys	Thr	Lys	Ser	Asn
205					85					90					95	
208	Ile	Asn	Leu	Glu	Ile	Ser	Ala	Pro	Leu	Thr	Val	Thr	Ser	Glu	Ala	Leu
209				100					105					110		
212	Thr	Val	Ala	Ala	Ala	Ala	Pro	Leu	Met	Val	Ala	Gly	Asn	Thr	Leu	Thr
213			115					120					125			
216	Met	Gln	Ser	Gln	Ala	Pro	Leu	Thr	Val	His	Asp	Ser	Lys	Leu	Ser	Ile
217		130					135					140				
220	Ala	Thr	Gln	Gly	Pro	Leu	Thr	Val	Ser	Glu	Gly	Lys	Leu	Ala	Leu	Gln
221	145					150					155				160	
224	Thr	Ser	Gly	Pro	Leu	Thr	Thr	Thr	Asp	Ser	Ser	Thr	Leu	Thr	Ile	Thr
225				165						170					175	
228	Ala	Ser	Pro	Pro	Leu	Thr	Thr	Ala	Thr	Gly	Ser	Leu	Gly	Ile	Asp	Leu
229			180						185					190		
232	Lys	Glu	Pro	Ile	Tyr	Thr	Gln	Asn	Gly	Lys	Leu	Gly	Leu	Lys	Tyr	Gly
233		195						200					205			
236	Ala	Pro	Leu	His	Val	Thr	Asp	Asp	Leu	Asn	Thr	Leu	Thr	Val	Ala	Thr
237		210					215					220				
240	Gly	Pro	Gly	Val	Thr	Ile	Asn	Asn	Thr	Ser	Leu	Gln	Thr	Lys	Val	Thr
241	225					230					235				240	
244	Gly	Ala	Leu	Gly	Phe	Asp	Ser	Gln	Gly	Asn	Met	Gln	Leu	Asn	Val	Ala
245				245					250					255		
248	Gly	Gly	Leu	Arg	Ile	Asp	Ser	Gln	Asn	Arg	Arg	Leu	Ile	Leu	Asp	Val
249			260						265					270		
252	Ser	Tyr	Pro	Phe	Asp	Ala	Gln	Asn	Gln	Leu	Asn	Leu	Arg	Leu	Gly	Gln
253			275					280					285			
256	Gly	Pro	Leu	Phe	Ile	Asn	Ser	Ala	His	Asn	Leu	Asp	Ile	Asn	Tyr	Asn
257		290					295					300				
260	Lys	Gly	Leu	Tyr	Leu	Phe	Thr	Ala	Ser	Asn	Asn	Ser	Lys	Lys	Leu	Glu
261	305					310					315				320	
264	Val	Asn	Leu	Ser	Thr	Ala	Lys	Gly	Leu	Met	Phe	Asp	Ala	Thr	Ala	Ile
265				325					330					335		
268	Ala	Ile	Asn	Ala	Gly	Asp	Gly	Leu	Glu	Phe	Gly	Ser	Pro	Asn	Ala	Pro
269			340						345					350		
272	Asn	Thr	Asn	Pro	Leu	Lys	Thr	Lys	Ile	Gly	His	Gly	Leu	Glu	Phe	Asp
273			355					360					365			
276	Ser	Asn	Lys	Ala	Met	Val	Pro	Lys	Leu	Gly	Thr	Gly	Leu	Ser	Phe	Asp
277		370					375					380				
280	Ser	Thr	Gly	Ala	Ile	Thr	Val	Gly	Asn	Lys	Asn	Asn	Asp	Lys	Leu	Thr
281	385					390					395				400	
284	Leu	Trp	Thr	Thr	Pro	Ala	Pro	Ser	Pro	Asn	Cys	Arg	Leu	Asn	Ala	Glu
285				405					410					415		
288	Lys	Asp	Ala	Lys	Leu	Thr	Leu	Val	Leu	Thr	Lys	Cys	Gly	Ser	Gln	Ile
289			420						425					430		
292	Leu	Ala	Thr	Val	Ser	Val	Leu	Ala	Val	Lys	Gly	Ser	Leu	Ala	Pro	Ile
293			435					440					445			
296	Ser	Gly	Thr	Val	Gln	Ser	Ala	His	Leu	Ile	Ile	Arg	Phe	Asp	Glu	Asn
297		450					455					460				

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/870,203A

DATE: 02/05/2002
TIME: 14:00:19

Input Set : A:\4-31452A.ST25.txt
Output Set: N:\CRF3\02052002\I870203A.raw

300 Gly Val Leu Leu Asn Asn Ser Phe Leu Asp Pro Glu Tyr Trp Asn Phe 480
301 465 470 475
304 Arg Asn Gly Asp Leu Thr Glu Gly Thr Ala Tyr Thr Asn Ala Val Gly 495
305 485 490 510
308 Phe Met Pro Asn Leu Ser Ala Tyr Pro Lys Ser His Gly Lys Thr Ala 510
309 500 505 525
312 Lys Ser Asn Ile Val Ser Gln Val Tyr Leu Asn Gly Asp Lys Thr Lys 525
313 515 520 540
316 Pro Val Thr Leu Thr Ile Thr Leu Asn Gly Thr Gln Glu Thr Gly Asp 540
317 530 535 555
320 Thr Thr Pro Ser Ala Tyr Ser Met Ser Phe Ser Trp Asp Trp Ser Gly 560
321 545 550 575
324 His Asn Tyr Ile Asn Glu Ile Phe Ala Thr Ser Ser Tyr Thr Phe Ser 575
325 565
328 Tyr Ile Ala Gln Glu 580
329 580

332 <210> SEQ ID NO: 3

333 <211> LENGTH: 1746

334 <212> TYPE: DNA

335 <213> ORGANISM: Artificial Sequence

337 <220> FEATURE:

338 <223> OTHER INFORMATION: Codes for a mutated Human Adenovirus type 5 fiber protein.

340 <220> FEATURE:

341 <221> NAME/KEY: CDS

342 <222> LOCATION: (1)..(1746)

343 <223> OTHER INFORMATION:

346 <220> FEATURE:

347 <221> NAME/KEY: mutation

348 <222> LOCATION: (1222)..(1227)

349 <223> OTHER INFORMATION:

352 <400> SEQUENCE: 3

353 atg aag cgc gca aga ccg tct gaa gat acc ttc aac ccc gtg tat cca 48

354 Met Lys Arg Ala Arg Pro Ser Glu Asp Thr Phe Asn Pro Val Tyr Pro 15 96

355 1 5 10 15 30 144

357 tat gac acg gaa acc ggt cct cca act gtg cct ttt ctt act cct ccc 30

358 Tyr Asp Thr Glu Thr Gly Pro Pro Thr Val Pro Phe Leu Thr Pro Pro 45 192

359 20 25 30 45 192

361 ttt gta tcc ccc aat ggg ttt caa gag agt ccc cct ggg gta ctc tct 45

362 Phe Val Ser Pro Asn Gly Phe Gln Glu Ser Pro Pro Gly Val Leu Ser 60 240

363 35 40 45 60 240

365 ttg cgc cta tcc gaa cct cta gtt acc tcc aat ggc atg ctt gcg ctc 75 288

366 Leu Arg Leu Ser Glu Pro Leu Val Thr Ser Asn Gly Met Leu Ala Leu 80

367 50 55 60 75 80 288

369 aaa atg ggc aac ggc ctc tct ctg gac gag gcc ggc aac ctt acc tcc 75

370 Lys Met Gly Asn Gly Leu Ser Leu Asp Glu Ala Gly Asn Leu Thr Ser 80

371 65 70 75 80 85 90 95 288

373 caa aat gta acc act gtg agc cca cct ctc aaa aaa acc aag tca aac 90

374 Gln Asn Val Thr Thr Val Ser Pro Pro Leu Lys Lys Thr Lys Ser Asn 95

375 85 90 95 288

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/870,203A

DATE: 02/05/2002
TIME: 14:00:20

Input Set : A:\4-31452A.ST25.txt
Output Set: N:\CRF3\02052002\I870203A.raw